SETA BioMedicals
Fluorescent Tools for BioMedical Applications
http://www.setabiomedicals.com
e-mail: info@setabiomedicals.com

Product number: K9-4179
Product name: SeTau-680-NHS

General Data

Molecular Mass: 2011.73

1624.00 (protonated form)

Solubility: Water, Alcohol, DMF, DMSO

Insoluble: Chloroform

Storage: Store in absence of light, desiccate and refrigerate

Description

- Extremely bright, water-soluble, amine-reactive label containing one NHS-ester group. The ideal label for proteins and other amino-modified biomolecules including oligonucleotides.

Advantages

- Perfectly suited for excitation with 635, 640, and 650-nm diode lasers
- Low quenching tendency at high dye-to-protein ratios compared to other labels e.g. **Cy5.5™**
- Considerably higher photostability compared to fluorescein or other cyanine dyes (**Cy5** or **Cy5.5** dyes)
- High chemical stability against oxidation with peroxides or other oxygen species
- Longer fluorescence lifetime compared to **Cy5.5**
- Extremely bright label: most sensitive organic fluorescent label for proteins currently on the market for the 647-nm Kr-ion and 670 laser lines

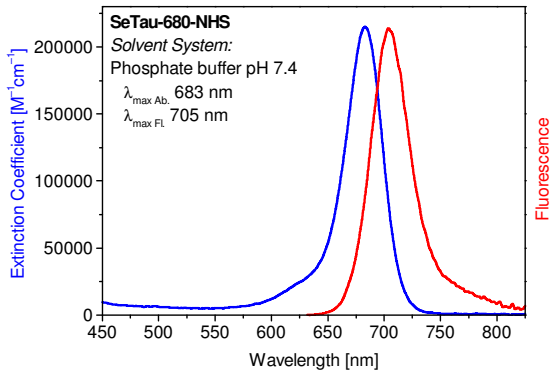
Spectral Data

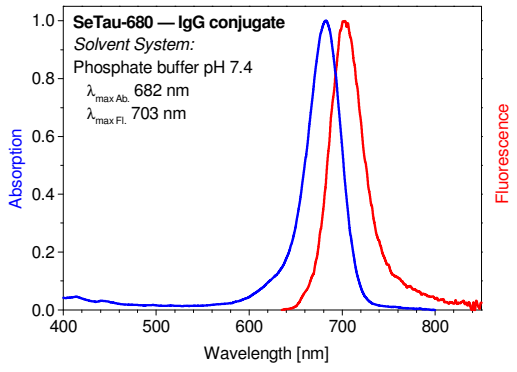
Solvent System: phosphate buffer pH 7.4

Sample	Dye-to-protein Ratio	Absorption max. [nm]	Extinction Coefficient [$M^{-1}cm^{-1}$]	Fluorescence max. [nm]	Quantum Yield[1] [%]	Fluorescence Lifetime at 25 ºC [ns]
Free dye	—	683	295,000	705	58	2.86
IgG conjugate 1	1.0	682		703	45	2.94
IgG conjugate 2	2.0	682		703	37	2.91
IgG conjugate 3	4.0	682		703	29	2.84
IgG conjugate 4	6.0	682		703	25	2.76

[1] **Cy5.5** in phosphate buffer pH 7.4 (QY = 23% [1]) was used as the reference. $\lambda_{Ex.}$ = 660 nm.

[1] S.R.Mujumdar, R.B.Mujumdar, C.M.Grant, A.S.Waggoner. Cyanine-labeling reagents: sulfobenzindocyanine succinimidyl esters. Bioconjugate Chem. (1996), 7, 356–362.





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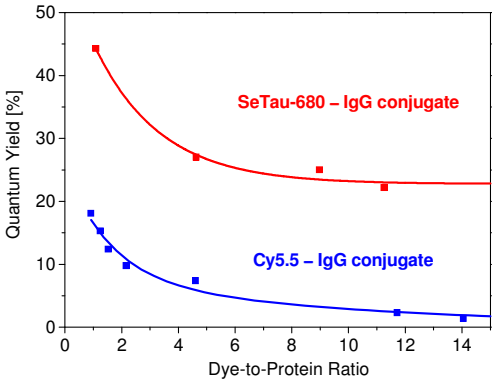
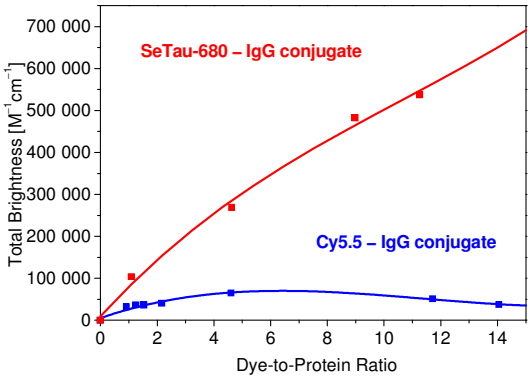
Absorption and emission spectrum
of **SeTau-680-NHS** in phosphate buffer (pH 7.4)

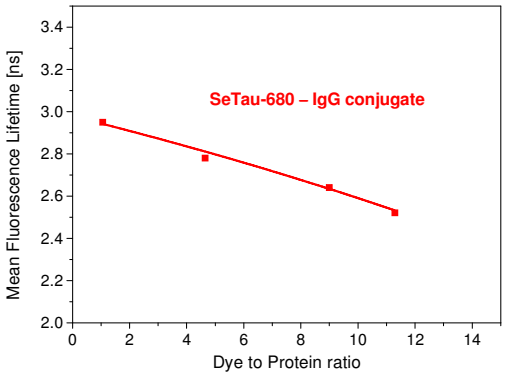


Quantum yield *vs.* dye-to-protein ratio of
SeTau-680 — IgG conjugates in phosphate buffer (pH 7.4)
as compared to **Cy5.5 — IgG conjugates**

Absorption and emission spectrum
of a **SeTau-680 — IgG conjugate** in phosphate buffer
(pH 7.4, Dye-to-protein ratio **1.0)**



Total brightness (QY × ε × D/P) vs. dye-to-protein ratio (D/P)
of **SeTau-680 — IgG conjugates** in phosphate buffer (pH 7.4)



Mean fluorescence lifetime *vs.* dye-to-protein ratio of
SeTau-680 — IgG conjugates in phosphate buffer (pH 7.4)